National Institute of Environmental Health Sciences

Human plague in the USA: The importance of regional and local climate

Author(s): Ben Ari T, Gershunov A, Gage KL, Snall T, Ettestad P, Kausrud KL, Stenseth NC
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Abstract:

A 56-year time series of human plague cases (Yersinia pestis) in the western United States was used to explore the effects of climatic patterns on plague levels. We found that the Pacific Decadal Oscillation (PDO), together with previous plague levels and above-normal temperatures, explained much of the plague variability. We propose that the PDO's impact on plague is conveyed via its effect on precipitation and temperature and the effect of precipitation and temperature on plague hosts and vectors: warmer and wetter climate leading to increased plague activity and thus an increased number of human cases. Our analysis furthermore provides insights into the consistency of plague mechanisms at larger scales.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2614152

Resource Description

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Temperature, Other Exposure

Temperature: Fluctuations

Other Exposure: Pacific Decadal Oscillation

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

United States

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Flea-borne Disease

Flea-borne Disease: Plague

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Outcome Change Prediction

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Short-Term (

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content